

WHAT IS CLAIMED IS:

1. A sealing arrangement for a pump, comprising:
 - a first member having a peripheral wedge-shaped pocket formed therein;
 - a second member with a rim opposed to said pocket;
 - a diaphragm disposed between said first and second members, comprising:
 - a central stem having a longitudinal axis;
 - a disk-shaped head attached to said stem; and
 - an upstanding bead disposed around the periphery of said head, said bead including a generally radially-outwardly facing first angled surface, and a generally radially-inwardly facing second angled surface;wherein said bead is received in said pocket so as to form two separate, spaced-apart sealing surfaces between said diaphragm and said first member.
2. The sealing arrangement of claim 1 wherein each of said angled surfaces is disposed at an angle of about 10 degrees to about 30 degrees to said longitudinal axis.
3. The sealing arrangement of claim 2 wherein each of said angled surfaces is disposed at an angle of about 15 degrees to said longitudinal axis.
4. The sealing arrangement of claim 1 wherein said bead includes a substantially flat, axially-facing surface disposed between said angled surfaces.
5. The sealing arrangement of claim 1 wherein:
 - said diaphragm includes a substantially parallel-sided first flat portion disposed adjacent to said second angled surface; and
 - said first flat portion is clamped between said first and second members.
6. The sealing arrangement of claim 1 wherein:
 - said diaphragm includes a substantially parallel-sided second flat portion disposed adjacent to the second angled surface; and

said second flat portion is clamped between said first and second members.

7. The sealing arrangement of claim 1 wherein a V-shaped groove is formed in said rim.

8. The sealing arrangement of claim 1 wherein said diaphragm comprises a material selected from the group consisting of a fluoroelastomer, ethylene propylene diene terpolymer, and combinations thereof.

9. The sealing arrangement of claim 1 wherein said pocket includes a generally radially-outwardly facing third angled surface, and a generally radially-inwardly facing fourth angled surface.

10. A sealing arrangement, comprising:

first and second members each having a planar surface, said members cooperatively defining a gland for receiving a gasket;

a gasket made from a resilient material disposed in said gland, said gasket including a flat web, and a circular cross-section first bead extending in a first closed path;

wherein the dimensions of said first bead and said first and second members are selected such that said first bead is diametrically compressed at least about 40% from its free state.

11. The sealing arrangement of claim 10 wherein said first bead is compressed about 50% to about 60% from its free state.

12. The sealing arrangement of claim 10 wherein said gasket further includes a circular cross-section second bead extending in a closed path inside of said first closed path and received in said gland, wherein the dimensions of said second bead and said first and second members are selected such that said second bead is diametrically compressed at least about 40% from its free state.

13. The sealing arrangement of claim 12 wherein said second bead is compressed about 50% to about 60% from its free state.

14. The sealing arrangement of claim 10 wherein said gasket comprises a material selected from the group consisting of a fluoroelastomer, a perfluoroelastomers ethylene propylene diene terpolymer, and combinations thereof.

15. A pump, comprising:
a pump head having a peripheral wedge-shaped pocket formed therein;
a body having a rim opposed to said pocket;
a diaphragm disposed between said pump head and said body, comprising:
a central stem positioned having a longitudinal axis;
a disk-shaped head attached to said stem; and
an upstanding diaphragm bead disposed around the periphery of said head, said diaphragm bead including a generally radially-outwardly facing first angled surface, and a generally radially-inwardly facing second angled surface;
wherein said diaphragm bead is received in said pocket so as to form two separate sealing surfaces between said pump head and said diaphragm.

16. The pump of claim 15, wherein said pump head comprises a chamber and a head having mating planar surfaces, said chamber and said head cooperatively defining a gland for receiving a gasket, said pump further comprising:

a gasket made from a resilient material disposed in said gland, said gasket including a flat web, and a circular cross-section first bead extending in a first closed path;

wherein the dimensions of said first bead and said first and second members are selected such that said first bead is diametrically compressed at least about 40% from its free state.

17. The pump of claim 16 wherein said first bead is compressed about 50% to about 60% from its free state.

18. The pump of claim 16 wherein said gasket further includes a circular cross-section second bead extending in a closed path inside of said first closed path and received in said gland, wherein the dimensions of said second bead, said head, and said chamber are selected such that said second bead is diametrically compressed at least about 40% from its free state.

19. The pump of claim 18 wherein said second bead is compressed about 50% to about 60% from its free state.

20. The pump of claim 16 wherein said diaphragm comprises a material selected from the group consisting of a fluoroelastomer, ethylene propylene diene terpolymer, and combinations thereof.